

Abstract of the Disclosure

A floor care apparatus has a nozzle assembly housing an agitator. A motor couples to the agitator to drive it at two or more speeds and constant suction power. A user indicates their mode-of-operation preference by positioning a switch. An agitator motor control circuit, responsive to the switch, effectuates motor control by supplying either a fixed duty cycle signal or a substantially constant voltage signal. The fixed duty cycle signal includes a waveform with a substantially constant voltage value that is on for a first or first and second of four quarters of the waveform period. Thereafter, it repeats for additional periods. The switch preferably embodies a resistor network and a fixed current source that creates a voltage input to an A/D converter that falls within a specified range. Other apparatus embodiments contemplate multiple agitators with one or more agitator motors. A suction fan motor, separate from the agitator motor(s), may also exist.